

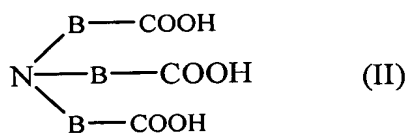
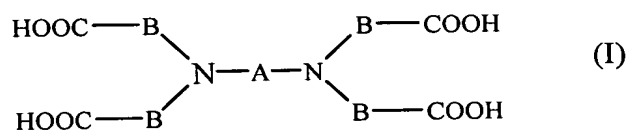
IN THE CLAIMS

Please amend the claims as follows:

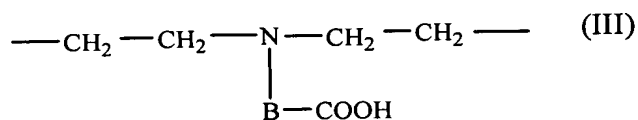
1. (original): A mixture containing

- (a) from 5 to 95% by weight of at least one reaction product of a poly(C<sub>2</sub>-C<sub>20</sub>-carboxylic acid) having at least one tertiary amino group with secondary amines and
- (b) 5-95% by weight of at least one reaction product of maleic anhydride and a primary alkylamine.

2. (original): A mixture as claimed in claim 1, wherein the poly(C<sub>2</sub>-C<sub>20</sub>-carboxylic acid) having at least one tertiary amino group is of the following formula I or II



where A is a straight-chain or branched C<sub>2-6</sub>-alkylene radical or a radical of the formula III



where B is a C<sub>1-19</sub>-alkylene radical.

Claims 3-11 (canceled)

12. (previously presented) A mixture as claimed in claim 1, wherein the reaction product (a) is an amide, amidoammonium salt or ammonium salt in which no carboxyl group, one carboxyl group or a plurality of carboxyl groups is or are converted into amido groups.

13. (previously presented) A mixture as claimed in claim 1, wherein the secondary amine of the component (a) is of the formula  $\text{HNR}_2$ , where R is straight-chain or branched  $\text{C}_{10-30}$ -alkyl.

14. (previously presented) A mixture as claimed in claim 1, wherein the primary alkylamine of the component (b) is a  $\text{C}_{8-30}$ -alkylamine.

15. (previously presented) A mineral oil middle distillate containing a mixture as claimed in claim 1.

16. (previously presented) A mineral oil middle distillate as claimed in claim 15, further comprising flow improvers, conductivity improvers, corrosion-inhibiting additives, lubricity additives, antioxidants, metal deactivators, antifoams, demulsifiers, detergents, cetane number improvers, dyes, fragrances or mixtures thereof.

17. (previously presented) A concentrate containing 10-60% by weight, based on the total amount of the concentrate, of a mixture as claimed in claim 1, dissolved in the hydrocarbon solvent.

18. (previously presented) A mineral oil middle distillate as claimed in claim 15, further comprising flow improvers based on ethylene/vinyl carboxylate copolymers.

19. (new) The mixture of claim 1, wherein said primary alkyl amine is at least one primary alkyl amine selected from the group consisting of straight-chain octyl amine, branched octyl amine, straight-chain nonyl amine, branched nonyl amine, straight-chain decyl amine, branched decyl amine, straight-chain undecyl amine, branched undecyl amine, straight-chain dodecyl amine, branched dodecyl amine, straight-chain tridecyl amine, branched tridecyl amine, straight-chain tetradecyl amine, branched tetradecyl amine, straight-chain pentadecylamine, branched pentadecylamine, straight-chain hexadecyl amine, branched hexadecyl amine, straight-chain heptadecyl amine, branched heptadecyl amine, straight-chain octadecylamine, branched octadecylamine, and a mixture thereof.

20. (new) The mixture of claim 1, wherein said maleic anhydride and said primary alkyl amine are reacted in a molar ratio of 1:1.

21. (new) The mineral oil middle distillate of claim 15, wherein said mixture is present in an amount of 10-1000 ppm.

SUPPORT FOR AMENDMENT

Support for claim 19 is found on page 7, lines 17-22. Support for claim 20 is found on page 7, line 13 of the specification. Support for claim 21 is found on page 7, line 26 of the specification. No new matter would be added to this application by entry of this amendment.

Upon entry of this amendment, claims 1-2 and 12-21 will now be active in this application.

REQUEST FOR RECONSIDERATION

Mineral oil middle distillates, as well as diesel fuels, can suffer from reduced lubricity due to the presence of solid paraffins. Attempts to improve the low temperature properties of such materials have not met with entirely satisfactory results and accordingly, compositions which may be used to improve the low temperature properties of such materials are sought.

The present invention addresses this problem by providing a mixture containing the reaction product of a polycarboxylic acid having at least one tertiary amino group, with a secondary amine and at least one reaction product of **maleic anhydride** with a primary **alkyl** amine. Applicants have discovered that such a mixture provides for good additives for mineral oil middle distillates. Such a mixture is nowhere disclosed or suggested in the cited prior art of record.

The rejection of Claims 2, 3 and 12-18 under 35 U.S.C. § 102(b) over Wenderoth WO 97/46640 which has matured into U.S. Patent 6,071,993 is respectfully traversed.

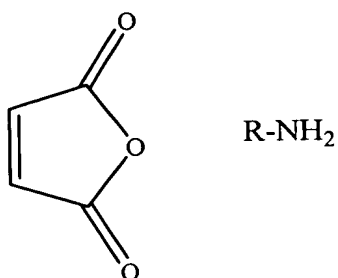
The cited prior art of record fails to disclose or suggest a mixture comprising at least one reaction product of **maleic anhydride** and a **primary alkyl amine**.

Wenderoth et al. U.S. 6,071,993 describes a mixture containing (a) at least one imide of a copolymer based on  $\alpha$ -olefin and ethylenically unsaturated dicarboxylic acid and a polyamine; and (b) at least one reaction product of a polycarboxylic acid having at least one

tertiary amino group with secondary amines. (col. 1, lines 4-11). Component (a) is a **copolymer** based on the  $\alpha$ -olefin and an ethylenically unsaturated dicarboxylic acid such as maleic acid (col. 3, lines 58-59) which is then reacted with a polyamine (col. 4, lines 20-25).

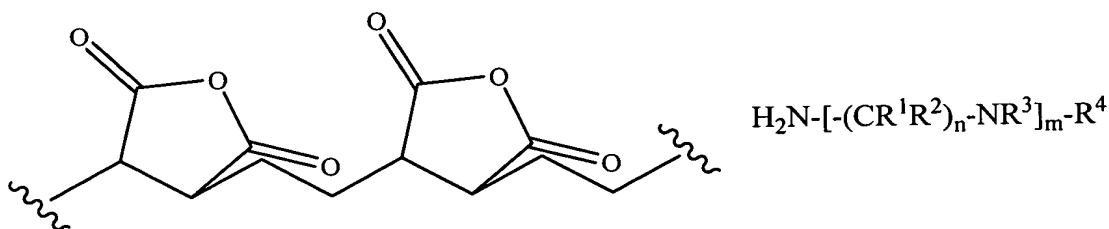
Accordingly, the reference describes the reaction product of a polymer having dicarboxylic acid substitution, which is then reacted with a polyamine to form an imide.

In contrast, the present invention is directed to a mixture in which component (b) is the reaction product of a maleic anhydride with a primary alkyl amine.



Applicants respectfully submit that the reference cited fails to disclose or suggest either a maleic anhydride or a primary alkyl amine accordingly do not disclose or suggest the claimed invention.

As noted above, the reference component (a) is a copolymer based on a  $\alpha$ -olefin and an ethylenically unsaturated dicarboxylic acid such as maleic acid. Upon polymerization, the resulting polymer will have a hydrocarbon backbone, pendant thereon, 1,2 dicarboxylic acid (anhydride) units.



Clearly, as a result polymerization, there is no longer ethylenically unsaturation between the two carboxylic acid units as such ethylenically unsaturated sites are reduced

during the polymerization process. There are no maleic acid (anhydride) units present in the polymer.

In contrast, the claimed invention is directed to a mixture which contains at least one reaction product of **maleic anhydride** and a primary alkyl amine. As such, the present invention is fundamentally different from that of the cited reference in that Applicants claim the reaction product of maleic anhydride, a compound **possessing ethylenic unsaturation** whereas the cited reference describes the reaction product of a dicarboxylic acid which is missing ethylenic unsaturation.

Moreover, the cited reference fails to disclose or suggest the reaction of a primary **alkyl** amine.

As noted above, the reference describes the reaction of polyamines which amines contain **at least two nitrogen atoms** (col. 4, lines 20-21). Such poly amines have **at least two amino groups** present therein.

In contrast, the present invention is directed to the reaction product of a primary **alkyl** amine in which a primary amine is substituted by an alkyl group. Such a primary alkyl amine is not a polyamine, the reaction product being a low molecular weight compound. As the cited reference fails to disclose or suggest the reaction of a primary alkyl amine, but rather describes the reaction of a polyamine, the cited reference clearly neither discloses nor suggests the claimed invention.

The failure of the reference to describe the claim limitation of at least one reaction product of **maleic anhydride** with a primary **alkyl** amine, fails to support the conclusion that the claimed invention is anticipated by the cited reference. In the absence of an explicit teaching of the claim limitation of at least one reaction product of **maleic anhydride** with a primary **alkyl** amine, the present invention is clearly neither anticipated nor made obvious

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Reply to Office Action of October 16, 2003

from the references and accordingly the withdrawal of the rejection under 35 U.S.C. § 102(b)  
is respectfully requested.

Applicants submit this application is now in condition for allowance and early  
notification of such action is earnestly solicited.

Respectfully submitted,

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